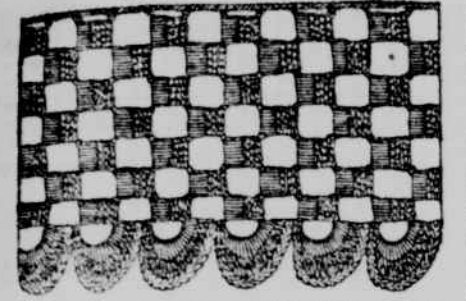


KNITTING AND CROCHET.

A SIMPLE EDGING.

From The Weekly Tribune.



Miss Hattie Browning, of New-York, an industrious young lady of fourteen, sends a sample of the above edging, worked very neatly in fine cotton (Clark's No. 12), with the following directions:

1st row: Miss 3, work 1 treble into each of the next 3 loops, then * 3 chain, miss 3, 3 trebles; repeat from * twice. At the end make 3 chain and work a SC into the last stitch. Make 3 ch. and turn.

2d row: Work 12 trebles into the first 3 chain. (These form the first scallop.) Then * 3 ch., miss 3, and work 3 trebles under the next chain of 3; repeat from * twice. At the end, 3 ch., miss 3, 1 treble into the last stitch. Make 3 ch. and turn.

3d row: * 3 trebles under the first 3 ch., * 3 chain, miss 3, 3 trebles under the next 3 ch.; repeat from * twice. At the end, 3 ch., miss 3, 1 treble into the last stitch. Make 3 ch. and turn.

The second and third rows are repeated till the edging is long enough.

If a narrower edging of the same pattern is desired, make a chain of 19 stitches and proceed as above, repeating only once. A still narrower edging may be formed by forming a chain of 13 stitches, working as before, but without any repetition.

CHILDREN'S CROCHETED UNDERSHIRTS.

Knitted undershirts are much superior to crocheted ones in many respects, and where they are not a serious object they are greatly to be preferred. They do, however, have the advantage of being made in many hours in their making, and this is often a great drawback. Overworked mothers and sisters can hardly find the time for knitting them, and hence arises a demand for crocheted under vests. These can be made of any size, and in either wool or cotton. Soft knitting cotton is both durable and washes well. For woolen ones for the little folks, the finer, softer wools are to be preferred, and the closeness or openness of the work will depend on the size of the hook used. On these points each worker can use her own judgment.

Make a chain the full length of the shirt, and work backward and forward, in ribbed crochet, turning the work at the end of each row. This kind of crochet has been described more than once in this department. Briefly stated, it consists of double crochet worked into the outside loop of each stitch. This forms a series of ribs or ridges, not unlike ribbed knitting. Work a piece wide enough for the front of the shirt. Work a similar piece for the back. Sew up the edges of the two pieces, leaving a slit at the top of each for the insertion of the sleeve. Next sew up about a quarter of the top on each side, leaving a hole in the middle for the neck.

Make a chain long enough for the sleeves, and work a piece in the same manner half the full width desired, taking care that in the last four or five rows the DC. stitches are graduated toward the wrist—made smaller as they approach the wrist in order that this part may be narrower than the rest of the sleeve. Now work the other side of the same foundation chain another piece to match this and sew the two together. This completes the sleeve, which must be sewed to the body of the shirt. Another piece of the shirt work as follows:

1st row: * 1 treble, 2 ch., miss 2; repeat from * all round.

2d row: 3 DC. under every 2 chain.

The body of the shirt being worked in white, this little border may be in blue or scarlet. Put a ribbon through the holes made in the first row, and gather in as much as may be needed. Work a row of DC. round the bottom of the body and of each sleeve, in the same color, and the shirt is complete.

Instead of sewing the pieces together on the top of the shoulders, a little gore may, if preferred, be easily worked in, starting with one stitch, and increasing by working three into the centre loop every other row. The shoulders can also be sloped by increasing at this edge of the work when approaching the neck and decreasing again after protruding the arm.

Nothing can be simpler than passing a cord through the holes made in the first row, and gathering in as much as may be needed. Work a row of DC. round the bottom of the body and of each sleeve, in the same color, and the shirt is complete.

Instead of sewing the pieces together on the top of the shoulders, a little gore may, if preferred, be easily worked in, starting with one stitch, and increasing by working three into the centre loop every other row. The shoulders can also be sloped by increasing at this edge of the work when approaching the neck and decreasing again after protruding the arm.

BALLS.

Balls are often used instead of tassels in finishing infants' saques, hoods and other articles. These are usually small, and may be made thus:

Take rather thick fleecy wool, and wind around the thumb and first two fingers of the left hand three or four times. Then with a piece of strong thread or fine twine tie in the middle as tightly as possible. Remove the fingers and thumb, insert a pair of scissors in the loops thus left, and cut through them. Double one half of the loose ends to the left and the other to the right making a sort of flat circle, hold this in the left hand between the thumb and fingers, and with the scissors cut back all round about a quarter of an inch. Now with the fingers of both hands open out this flat circle into the form of a ball. Take this in the left hand, and go round and round it, with the scissors, trimming it and cutting it in until all the ends are even and smooth and the shape is perfectly round. This completes the ball. The process wastes a good deal of wool but is not difficult to learn.

Where large soft balls are wanted for children to play with, another plan is adopted: Cut two circular pieces of cardboard, about 4 inches across, with a narrow slit in the middle one inch across, and with a narrow slit in the wool and wind it over the two pieces of cardboard from the central hole, which is reached every time through the slit. When this middle hole is quite filled up, cut the wool around the outer edge, and pass a strong piece of twine two or three times between the cardboards, trying it very tightly. Tear away the cardboards, and cut the outside of the ball with sharp scissors until it is as round and smooth as a billiard ball. Any kind of wool, and any lengths knitted together will answer.

Balls are also sometimes regularly crocheted. In this case make a chain of five stitches, and work on both sides of it in D.C., increasing frequently. Work four or five rounds, then decrease as rapidly. Put the hook through the last five or six stitches, draw the wool through, and finish with a chain. Insert the hook from the opposite side of the ball and draw the loose end into the inside of the ball. Where the ball is intended to be at the end of a chain, don't break off the wool after finishing, but begin at once to make the chain.

When the ball is finished, the hook will tell you that you will find the dog in the net. The dog is a little thing that is used to draw the dog out of the net. The dog is a little thing that is used to draw the dog out of the net. The dog is a little thing that is used to draw the dog out of the net.

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SCIENCE FOR THE PEOPLE.

LIQUID GLUE.

The following directions are said to make a durable, slightly tinted, but clear liquid glue: 100 parts of ordinary gelatin are dissolved in 400 parts of water containing six to seven parts of acetic acid. The solution is kept for five or six hours in the water-bath, in a porcelain infusion pot, after which it is neutralized with carbonate of calcium, the insoluble precipitate filtered off, and the clear filtrate evaporated at a moderate temperature, until about 200 parts are obtained.

PAPER CEMENT.

Dissolve 150gm. of best French glue in 150cm. of water by soaking and heating. Then add a solution of 1gm. of shellac in 6cm. of alcohol, and stir well as long as the solution is warm. Mix also 35gm. of dextrin in 50cm. of alcohol and 25gm. of water, stir it well in a beaker, and place it in warm water until the solution is completely dissolved, and has acquired a clear brown color. Mix this solution with that of the glue, and pour the whole into a suitable form in which it may solidify. When wanted for use, cut off a small piece and liquify it by warming.

PHOTOGRAPHING EXPRESS TRAINS.

A California operator has had great success in photographing a horse at full gallop. Messrs. Marsh Brothers, photographers, at Henley-on-Thames, England, have just obtained some interesting pictures of the Great Western express. The "P" train, which is the fastest in the world, is running through Twyford station at a speed of nearly sixty miles per hour. The point of view from which the photograph has been taken is on the "port box" of the express, and the definition is admirable, the details of the locomotive coming out as sharply as the stationary objects in the view. Messrs. Marsh Brothers are now making a flying shutter which, when applied to their camera, will reduce the time of exposure of the plate to length of a second. With this new shutter, they hope to get a photograph of a train, photograph of an express train taken broadside on.

THE MOON'S APPARENT DISTANCE.

M. J. Plateau proposes a method of estimating approximately the apparent distance at which the moon seems to different people to be in the sky. This means consists in looking at the moon steadily until she seems to be at a distance of about 200 miles, or "accidental" image or ghost. The observer must then turn his gaze to a blank wall, on which he will see the accidental image projected as a tinted patch of the same shape as the moon. He is then to retreat from, or, if indoors, to move toward, the wall, until it appears to him to be of the same size as the moon itself. The distance measured off between the observer and the wall will be the same as that at which he unconsciously takes the moon to be. One of the sons of the author having made this experiment, the distance measured off in his case about fifty metres. This seems a small distance, but it was the result of a single experiment under circumstances which were not very favorable. M. Plateau concludes the brief memoir on the subject, presented by him to the Bachelier Society, by saying that all persons who are interested in the subject, to take care in repeating the experiment, lest the great brilliancy of the luminary should damage their sight.

GLASS GLOBES FOR ELECTRIC LIGHTS.

The globes of opal and ground glass used in connection with the Jablochowski lamp, which give out electric lights have considerable diffusive power; but it is a drawback to their employment that they absorb from 30 to 50 per cent of the total light produced in the arc. M. Clemando appears to have found a better mode of spreading the illumination, in forming the lantern of a Jablochowski lamp, by using a material which will give out a light of a more uniform color, and which will be less liable to become discolored by the heat of the arc. He has found that a material which will give out a light of a more uniform color, and which will be less liable to become discolored by the heat of the arc. He has found that a material which will give out a light of a more uniform color, and which will be less liable to become discolored by the heat of the arc.

A TRANS-NEPTUNIAN PLANET.

Mr. D. P. Todd, of the Nautical Almanac Office, has given in the September number of the *American Journal of Science* the result of his experience in searching for the suspected planet beyond the orbit of Neptune. The first part of his labors was purely speculative, and consisted of a search for the probable elements of the unknown body.

Exterior Planet—Longitude 1877-84, 1704-10. Mean distance from the sun, 52.9 years. Mean distance from Earth, 375 years. Mean diameter, 9-43. Angular diameter, 2-41. Stellar magnitudes, 13-45. Longitudinal parallax, 1-24. Longitudinal parallax, 1-24.

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There was a remarkable meteoric display, which, being the phenomenon as witnessed on August 8, 1801, amongst the meteors being "a prodigious number of fire-balls." He compared the whole to a brilliant display of fireworks.

It is rather singular, adds Nature, that in the history of comet observations should not have been able to recognize any previous appearance of the body connected with the Persids, notwithstanding its close approach to the earth's orbit when the perihelion passage takes place in the summer. Perhaps for many past centuries the perihelion may have fallen in the month of August. It is, however, a greater chance of escaping notice.

NOVEL BRICK-MAKING.

The long-continued depression in the coal trade has induced the owners of the Wharton Hall Colliery Company, Little Hulton, near Bolton, England, to put into practical shape a scheme long entertained, namely, the conversion of the "heapstead" of pit clay into bricks. It is well known that every colliery is more or less encumbered with vast heaps of dirt, shale, clay, and stones, and it was a happy thought of the Wharton Hall proprietors to utilize such rubbish. At the outset there were those who scouted the idea, and predicted failure, it seeming to them to be a utopian idea to send up the rocky substance, and receive the same again in the shape of a building material. Such, however, actually has taken place. A machine was laid down, clamps were built, and at the present time a considerable quantity of good red and white bricks are manufactured, and meet with a ready sale. The clay is first broken up by a boy into a box placed over a revolving perforated pan, and crumbed between two massive rollers. It next passes through the pan into a receptacle, and is conveyed in elevators fitted with iron caps into a trough, where it is kneaded into a paste by a set of revolving rollers. It is then pressed into a double-headed brick, which compares favorably with bricks manufactured from surface clay.

THE DESPAIRING LOVER.

Distressed with care,
For Pauline's fair,
Sweet smile, and sweet voice,
Poor Damon, her lover,
Resolves in despair,
No longer to languish,
Nor wait for a sigh;
But, mad with his love,
To a desperate deed,
When a leap from above
Will soon finish his woes.

When, in rage, he came there,
Beholding his deep sleep,
The sword did appear,
And the bottom now deep;
His torments projecting,
And softly projecting,
That he could not see,
A new love may get,
But a neck, when once broken,
Can never be set.

And that he could die,
Whenever he would;
But that he could not,
For as long as he could;
How grievous sorrow
The torment might grow,
He saw in the night,
To finish it.

But bold, unconcern'd,
As the thoughts of the pain,
He calmly return'd,
To his cottage again.

WILLIAM WALSH.

PROF. AGASSIZ ON COAST PORTALES.

From The American Journal of Science.

Entered as an engineer, he showed from boyhood a predilection for natural history. He was a favor of the study of the history of the earth, and when he came to America in 1837 he accompanied his father, and remained for some time with the little band of naturalists who were then in the country.

At Cambridge, shared his labors. In 1848 Portales entered the United States Coast Survey, where his ability and indefatigable industry were soon recognized, and he remained attached to that branch of our public service for many years.

He became deeply interested in everything relating to the study of the coast. Thanks to his energy and the high reputation of the Coast Survey, Professor Portales, and of his successors, Professor Pierce and Captain Patterson, he was enabled to make a valuable collection of the comparative new field of "Palaeogeography" and the historical investigations related to it.

The large collections of specimens from the coast of the United States, and the results of his investigations, were published in advance of their appearance in the *American Journal of Science*, and the results of his investigations, were published in advance of their appearance in the *American Journal of Science*.

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